CASE REPORTS

Treatment of Disseminated Coccidioidomycosis With Amphotericin B

Report of a Case

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AMPHOTERICIN B, an antibiotic formed by a species of Streptomyces isolated from a soil sample obtained near the Orinoco River in South America, has been shown to possess *in vivo* activity against experimental coccidioidal infections in mice.[1] This new antibiotic is similar in its action to nystatin, which is also coccidioidocidal *in vitro,* but whereas nystatin is almost totally unabsorbed from the gastrointestinal tract, amphotericin B produces detectable blood levels when administered by mouth.[2] This communication reports a case in which amphotericin B was administered by mouth to a patient with a chronic disfiguring coccidioidal granuloma of the face.

CASE REPORT

A 27-year-old white man came to Kern County, California, in 1947, and worked in the hay fields for two years, during which time he had no unusual respiratory illnesses. In 1949, there appeared on his right cheek a tender swelling, from which Coccidioides immitis was isolated by culture and biopsy. In the ensuing years, the granuloma spread to involve almost the whole right side of the face. The complement fixation for coccidioidal infection rose from 1+ in dilution of 1:32 in 1950 to 1+ in dilution of 1:128 in 1953. Results of precipitin tests also remained positive for four years, which was at that time a new record of persistence of precipitins (which usually disappear within a few months after primary infections, even in the presence of dissemination).

In early 1954 the patient was treated for a while with ethyl vanillate, but could not tolerate the large doses required for a man of his size (80 grams per day—or 40 half-gram capsules every six hours), although there was a temporary remission following the course of treatment.

In January, 1956, the patient had the worst exacerbation of the disease that had occurred up to that time. Although his general condition, nutrition, and strength remained good, the facial lesion became unsightly in the extreme (Figure 1). The whole right cheek, right eyebrow, nose, and lips became involved in the inflammation and granuloma. The nose became widened. Sinuses discharged into the nares and into the mouth, as well as on the external surface. The lips became thick and edematous and the voice hoarse. The appearance was little less than terrifying.

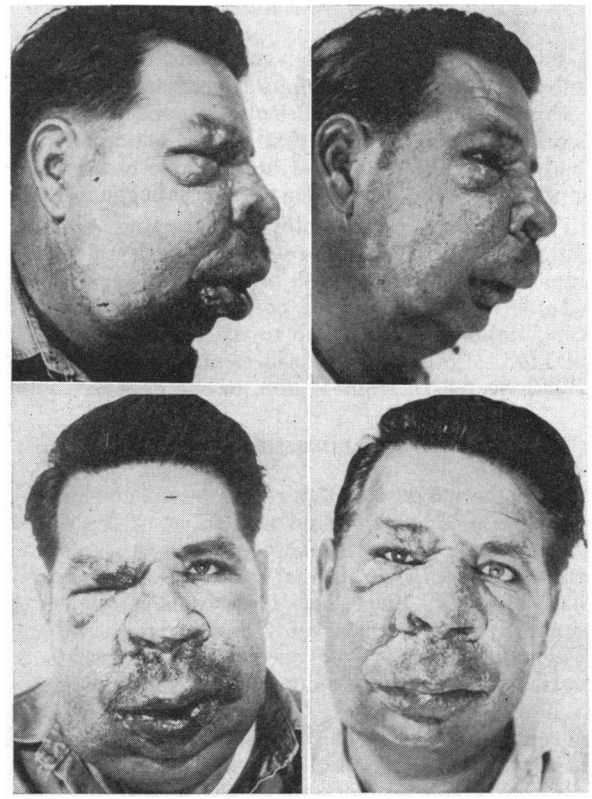

Figure 1.—*Left:* Coccidioidal granuloma of the face of seven years' duration before treatment with amphotericin B. Great edema, inflammation and draining sinuses were present. *Right:* After treatment there was extensive scar tissue but edema and acute inflammation subsided and sinuses healed.

On February 24, 1956, therapy with amphotericin B was begun, 2.4 gm. being given by mouth daily (four capsules of 200 mg. each every eight hours). Two days later the patient reported excitedly that the lesions were drying up and edema subsiding. On examination the report was confirmed. Except for short interruptions when the supply was inadequate, treatment was continued for three months, a

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TABLE 1.—*Urine, Blood, and Liver Function Studies During and After Administration of Amphotericin B*

Date	Urine				Blood							Liver Function Tests		
	Albumin	Sugar	Leukocytes (Per Field)	Erythrocytes (Per Field)	Hemoglobin (Gm. per 100 cc.)	Leukocytes (Per cu. mm.)	Polymorphonuclear (Per Cent of Leukocytes)	Eosinophils (Per Cent of Leukocytes)	Lymphocytes (Per Cent of Leukocytes)	Monocytes (Per Cent of Leukocytes)	Sedimentation Rate (Mm. in 1 hr.)	Cephalin Flocculation (24 hr.)	Cephalin Flocculation (48 hr.)	Thymol Turbidity
March 5	0	0	1-3	2-4	14.6	9,700	57	2	39	2	41	0	0	.....
March 22	0	0	occ	0	16.4	12,750	58	1	40	1	27	0	1+	.....
April 30	0	0	occ	0	16.6	9,350	58	....	38	4	25	0	2+	.....
May 10	0	0	occ	0	16.7	11,000	61	....	38	1	7	....	....	.....
June 8	0	0	occ	0	16.8	9,050	54	....	41	4	13	....	....	.....
July 27	....	....	....	....	....	.....	....	....	....	....	....	2+	3+	9 units

total of 200 gm. being given. Acute inflammation subsided completely. Disfiguration from scar tissue was still considerable, but edema disappeared and all sinuses healed. He said that he felt better than he had for several years, and he was able to return to work for the first time since the illness began in 1949.

There were no symptoms suggesting toxicity, although the cephalin flocculation reaction and thymol turbidity test reaction became mildly abnormal (Table 1). The titer of complement fixation for coccidioidal disease began to regress, falling to 2+ at 1:32. The erythrocyte sedimentation rate (Wintrobe) decreased from 41 mm. in one hour to 7 mm.

DISCUSSION

Lest the purpose of this report be misunderstood, let it be said that it is no new thing to describe a solitary case in which one medication or another is said to "cure" coccidioidal granuloma. For nearly half a century there have been isolated reports of dramatic results with drugs now long discredited. The natural history of coccidioidal disease is so variable that no conclusions should be drawn from a single case. Indeed, Mackler has aptly termed coccidioidomycosis "a disease *without* a natural history."[3] Were amphotericin B in larger supply, no note would be made of its use in just one case. Nevertheless, since the need for an efficacious therapy in disseminated coccidioidomycosis is so pressing, every lead must be followed up until the question of a drug's usefulness can be answered one way or another. Is amphotericin B of value in the treatment of disseminated coccidioidomycosis? This paper is intended to raise the question, not to answer it.

SUMMARY

Improvement in a case of extensive coccidioidal granuloma of the face coincided with treatment with amphotericin B, an antifungal agent derived from Streptomyces.

ACKNOWLEDGMENTS

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Fatal Disseminated Moniliasis During Prolonged Antibiotic Therapy

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ALTHOUGH RECENTLY there has been an increasing number of reports regarding fungus infections complicating antibiotic therapy, the number of cases of disseminated moniliasis reported with septicemia or meningitis is still small. Such a case occurred at the Los Angeles County General Hospital during the intensive and prolonged treatment necessary in meningitis due to Hemophilus influenzae. Until recently, only three patients have been reported to have had disseminated moniliasis and survived. It is not certain that the therapy used in these cases contributed to the recovery of the patient, but therapeutic agents that are apparently more effective are now becoming available. Awareness and recognition of moniliasis are, therefore, of greater importance now than they have been in the past.

REPORT OF A CASE

A 13-month-old Caucasian girl was admitted to the Los Angeles County General Hospital, Commu-

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